

Exercise 1

1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.
 - a. How many units of hamburgers should you order? Why?
 - b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain.
How much is your deadweight loss?
 - c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain.
How much is your deadweight loss?

Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit
1 st		80		20	
2 nd		60		20	
3 rd		40		20	
4 th		20		20	
5 th		0		20	

2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?
3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose “Export Tax”, i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).
4. A “small”, open economy is engaging in international trade. Its domestic demand curve is given by $P = 100 - Q$ and its domestic supply curve is given by $P = Q$. The world price of the good is 20\$. Answer the following questions.
 - a. What does it mean for a country to be “small”? What implication of being “small” has on the world supply curve?
 - b. Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?
 - c. Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10\$ per unit. If the country is exporting, the government will impose export subsidy of 10\$ per unit. Calculate
 - i. Domestic consumer and producer surplus after the intervention
 - ii. Either subsidy cost or tariff revenue
 - iii. Deadweight loss from the intervention.

Exercise 1

1. You are considering the number of hamburgers that you plan to order. Based on the following table, complete the table and answer the following questions.

- a. How many units of hamburgers should you order? Why?

4 hamburgers because we should continue to buy as long as $MB > MC$

- b. Suppose you decide to order 2 hamburgers. Is this underallocation or overallocation? Explain.

How much is your deadweight loss?

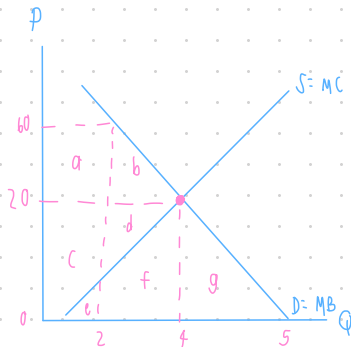
underallocation because at 2 hamburgers $MB > MC$
 $DWL = \text{area } (b+d)$
 $= \left(\frac{1}{2} \times 40 \times 2\right) \times 2$
 $= 80$

- c. Suppose you decide to order 5 hamburgers. Is this underallocation or overallocation? Explain.

How much is your deadweight loss?

overallocation because at 5 hamburgers $MB < MC$
 $DWL = \text{area } g$
 $= \frac{1}{2} \times 1 \times 20$
 $= 10$

total utility		marginal utility		$TC_n - TC_{n-1}$		$TB - TC$
Quantity	Total Benefit	Marginal Benefit	Total Cost	Marginal Cost	Total Net Benefit	
1 st	80	80	20	20	60	
2 nd	140	60	40	20	100	
3 rd	180	40	60	20	120	
4 th	200	20	80	20	120	
5 th	200	0	100	20	100	

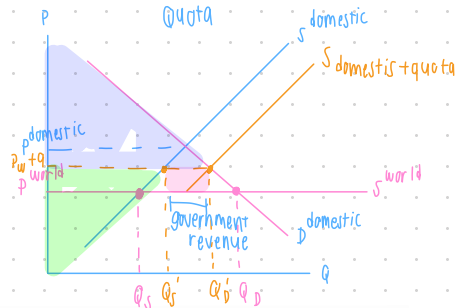
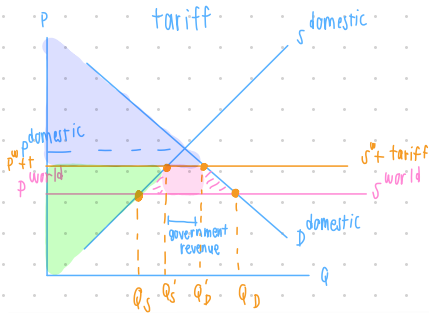
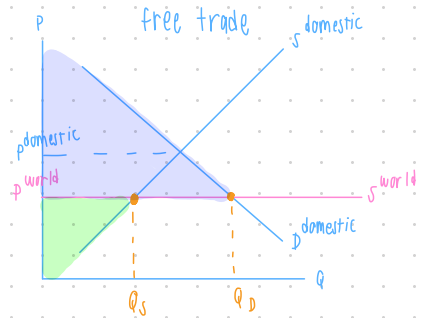


to find (Q^*, P^*) : $MC = MB$

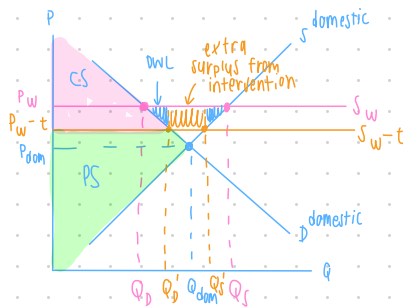
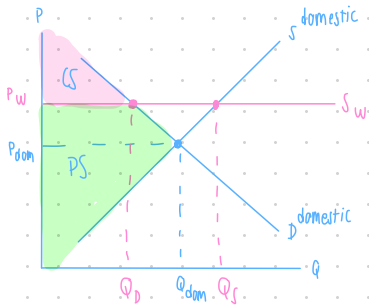
2. With diagrams, explain the differences between tariff and quota. Also, explain the impact on domestic stakeholders (consumers, producers, and government), i.e., who is better off and who is worse off? Why?

tariff - tax on imports
quota - limit on imports

- Consumers - worse off because consumers must face more expensive products
- Producers - better off because they can sell at higher price
- Government - better off because they can gain income by collecting tax and quota



3. Consider an exporting country. Analyze welfare effect on all stakeholders when its government impose "Export Tax", i.e., per-unit tax imposed on the exported good. Draw a diagram(s) and provide complete analysis on who gain(s) and who lose(s).



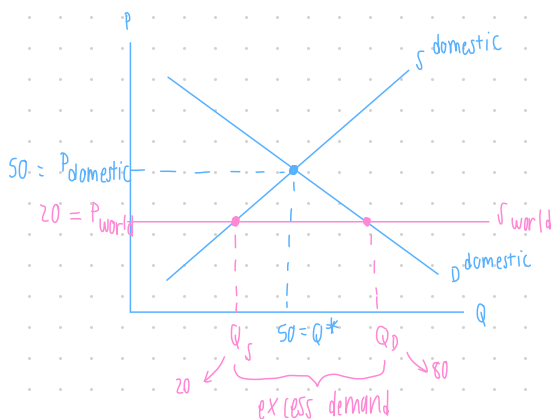
consumer - better off
producer - worse off
government - better off

4. A "small", open economy is engaging in international trade. Its domestic demand curve is given by $P = 100 - Q$ and its domestic supply curve is given by $P = Q$. The world price of the good is 20\$.
- Answer the following questions.

- a. What does it mean for a country to be "small"? What implication of being "small" has on the world supply curve?

how much it buys / sells does not affect the world price and world supply curve

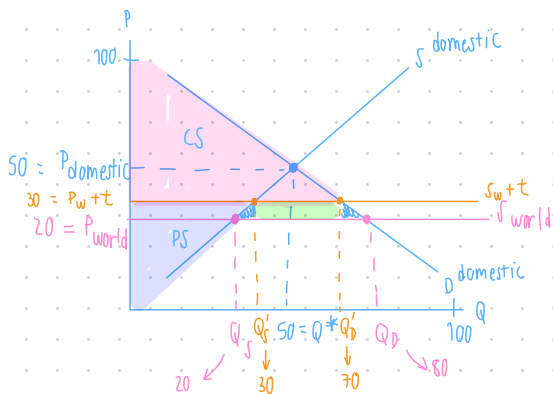
- b. Is this economy either an exporting or important country? Why? How many units of the goods is the country is currently importing or exporting?



$$\begin{aligned} \text{slope} &= -1 \\ Q &= 100 - P \\ 2Q &= 100 \\ Q &= 50 \end{aligned} \quad \left| \quad \begin{aligned} 50 &= 100 - P \\ P &= 50 \end{aligned} \quad \begin{aligned} Q &= 100 - 20 \\ Q &= 80 \end{aligned}$$

it must be import country since there is an excess demand with the unit of import of 60.

- c. Now suppose the government decides to intervene. If the country is importing, the government will impose import tariff of 10\$ per unit. If the country is exporting, the government will impose export subsidy of 10\$ per unit. Calculate
- Domestic consumer and producer surplus after the intervention
 - Either subsidy cost or tariff revenue
 - Deadweight loss from the intervention.



$$\begin{aligned} Q &= 100 - 30 \\ Q &= 70 \end{aligned}$$

$$\begin{aligned} \text{i. CS} &= \frac{1}{2} \times 30 \times 70 \\ &= 2,450 \end{aligned} \quad \begin{aligned} \text{PS} &= \frac{1}{2} \times 15 \times 30 \\ &= 450 \end{aligned}$$

$$\text{ii. tariff revenue} = 40 \times 30 = 120$$

$$\text{iii. DWL} = \left(\frac{1}{2} \times 10 \times 10 \right) \times 2 = 100$$